

BEFORE THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

TECK COMINCO ALASKA, INC.

Red Dog Mine,
Kotzebue, Alaska

NPDES Permit No. AK-003865-2

) Docket No. CWA-10-2005-0165

) COMPLIANCE ORDER BY
) CONSENT and REQUEST
) FOR INFORMATION

1. The following FINDINGS AND CONCLUSIONS are made, and COMPLIANCE ORDER BY CONSENT AND REQUEST FOR INFORMATION ("Order") issued, under the authority that Sections 308 and 309(a) of the Clean Water Act ("Act"), 33 U.S.C. §§ 1318 and 1319(a), vest in the Administrator of the United States Environmental Protection Agency ("EPA"). This authority has been delegated to the Regional Administrator, Region 10, and has been duly redelegated to the undersigned Director, Office of Compliance and Enforcement, Region 10.

I. FINDINGS AND CONCLUSIONS

Regulatory Basis

2. Section 301(a) of the Act, 33 U.S.C. § 1311(a), prohibits the discharge of pollutants by any person, except as authorized by an NPDES permit or other specified statutory sections. Section 402(a) of the Act, 33 U.S.C. § 1342(a), authorizes the Administrator of EPA to issue NPDES permits for discharges of pollutants into waters of the United States upon such specific terms and conditions as the Administrator may prescribe.

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1 3. Each violation of an NPDES permit, and each discharge of pollutants that is not
2 authorized by an NPDES permit, constitutes a violation of Section 301(a) of the Act, 33 U.S.C.
3 § 1311(a).

4 4. Teck Cominco Alaska, Incorporated ("Teck Cominco"), operates Red Dog Mine ("the
5 Mine"), which is located on Red Dog Creek, 82 miles north of Kotzebue, Alaska, at latitude 68° 4'
6 17" and longitude 162° 52' 5". Teck Cominco is a "person" within the meaning of Section 502(5) of
7 the Act, 33 U.S.C. § 1362(5).

8 5. The Mine, which was under Teck Cominco's control at all times relevant to this action,
9 discharges "pollutants" within the meaning of Section 502(6) of the Act, 33 U.S.C. § 1362(6), from a
10 "point source" (Outfall 001) within the meaning of Section 502(14) of the Act, 33 U.S.C.
11 § 1362(14), into Middle Fork Red Dog Creek, which is "navigable waters" within the meaning of
12 Section 502(7) of the Act, 33 U.S.C. § 1362(7). The Mine's discharges constitute "discharges of
13 pollutants" from a point source, within the meaning of Section 502(12) of the Act, 33 U.S.C.
14 § 1362(12).

15 6. Teck Cominco is authorized to discharge pollutants from the Mine under NPDES Permit
16 No. AK-003865-2 ("Permit"). Under Section 401 of the Act, Alaska Department of Environmental
17 Conservation ("ADEC") certified the Permit, and it became effective on August 28, 1998, and was
18 due to expire on August 28, 2003, but has been administratively extended under 40 CFR § 122.6.
19 Part I.A.1. of the Permit established an average monthly effluent limit of 170 mg/l, and a daily
20 maximum effluent limit of 196 mg/l, for total dissolved solids ("TDS"), based on the Alaska water
21 quality standard in effect at that time.

22 **Permit Exceedances**

23 7. At times during the months of September 1998, May - October 1999, May - October 2000,
24 May - October 2001, May - October 2002, May - August 2003, and May - September 2004, Teck
25 Cominco violated the TDS effluent limits in Part I.A.1 of the Permit. Teck Cominco submitted
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1 information suggesting that it will not be in compliance with the Permit's TDS limits during the
2 2005 discharge season.

3 8. Teck Cominco's violations of the TDS limits in Part I.A.1 of the Permit constitute
4 violations of Section 301(a) of the Act, 33 U.S.C. § 1311(a).

5 **Permit Modification**

6 9. New TDS Limits. EPA issued a modified permit on July 17, 2003, effective August 22,
7 2003 (the "Modified Permit"). The Modified Permit contains new TDS limits and monitoring
8 requirements based on revised Alaska water quality standards, which replace the TDS limits
9 described in Paragraph 6 above. The new limits require Teck Cominco to limit the TDS load
10 discharged from Outfall 001 such that in-stream TDS concentrations at various locations and times
11 do not exceed specified levels. See Modified Permit Part I.A.8. For most of the discharge season,
12 the maximum TDS concentration that the Modified Permit allows in Main Stem Red Dog Creek is
13 1,500 mg/l. The Modified Permit further limits the maximum allowable TDS concentration to
14 500 mg/l from the time the discharge commences in the spring (when the receiving water thaws)
15 until Arctic grayling have finished spawning. The purpose of this more stringent restriction is to
16 protect Arctic grayling during the spawning life stage.

17 10. Appeal of New TDS Limit During Arctic Grayling Spawning. In an appeal of the permit
18 modification, the Environmental Appeals Board ("EAB") vacated the 500 mg/l TDS limit during
19 Arctic grayling spawning, and remanded to EPA Region 10 for further proceedings. EAB
20 Appeal No. NPDES 03-09. The rationale for the ruling was that the EAB deemed the record
21 insufficient to support the conclusion that the 500 mg/l TDS concentration adequately protected
22 Arctic grayling spawning. Since the commencement of the appeal, additional laboratory data have
23 become available concerning the effect of TDS on Arctic grayling spawning. Furthermore, EPA and
24 Teck Cominco have coordinated extensively concerning additional testing that will take place in the
25 spring of 2005, and which will yield additional data later in the summer of 2005. EPA has deferred
26 acting on the remanded TDS permit limit until those new data are available. Because EPA
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1 Region 10 has not yet acted on the remanded permit conditions as of the date of this Order, the
2 Permit's original more stringent TDS limits, as set forth in Paragraph 6, remain the effective effluent
3 limits during Arctic grayling spawning.

4 11. New Flow Limit. The Modified Permit includes an overall wastewater discharge flow
5 volume limit based on a mass balance equation. See Modified Permit Section I.A.8.j. The purpose
6 of the flow limit is to ensure compliance with the maximum in-stream TDS concentrations specified
7 in Part I.A.8 of the Modified Permit.

8 12. Additional Overall Cap on TDS Concentration. When EPA issued the Modified Permit
9 on July 17, 2003, Teck Cominco and EPA believed that the TDS concentration in the effluent at
10 Outfall 001, with the wastewater treatment system then in place, would not exceed 3,900 mg/l over
11 the life of the Modified Permit. In order to ensure that the mass balance equation included a margin
12 of safety, the Modified Permit required that Teck Cominco use 3,900 mg/l as the assumed effluent
13 TDS concentration in the mass balance equation, and also required that the effluent concentration
14 itself not exceed 3,900 mg/l. See Modified Permit Sections I.A.8.j, I.A.8.f.

15 New Information

16 13. Grayling Spawning Timing. Since issuing the Modified Permit, the Alaska Department
17 of Natural Resources, Office of Habitat, Management, and Permitting ("ADNR"), has provided
18 information indicating that Arctic grayling spawning does not begin as soon as Main Stem Red Dog
19 Creek begins to flow in the spring, but begins only when water temperatures there reach 3°C.
20 Therefore, from an ecological perspective, the critical time period for limiting the TDS concentration
21 in Main Stem Red Dog Creek to 500 mg/l begins only when the water temperatures reach 3°C.

22 14. Discharge Volume Needs; Expected Exceedance of Maximum In-Stream TDS Levels.
23 Because of the manner in which TDS is introduced into the Mine's wastewater during the
24 wastewater treatment process, the TDS concentration in the receiving water is directly related to the
25 volumetric rate at which the Mine discharges wastewater. Because of unusually high snow
26 accumulations during the past winter, and the high water level in the Mine's tailings impoundment,
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1 dam safety concerns may force the Mine to discharge wastewater at a volumetric rates that cause
2 exceedances of the applicable TDS permit limits.

3 15. Expected Exceedance of Overall Cap on TDS Concentrations; Effect on Flow Volume
4 Limit. Since the issuance of the Modified Permit, Teck Cominco has notified EPA that the effluent
5 concentration may in fact exceed 3,900 mg/l at Outfall 001 during the 2005 and 2006 discharge
6 seasons. Teck Cominco initiated steps to reduce the TDS concentration in its effluent prior to
7 August 22, 2003, including design, bench testing, and construction of a new wastewater treatment
8 plant known as Water Treatment Plant 3. Those steps, however, will not reduce the effluent TDS
9 concentration significantly until the 2006 discharge season. For these reasons, the following Order
10 imposes an additional flow volume limit in the event TDS effluent concentrations exceed
11 3,900 mg/l.

12 II. ORDER

13 16. Based upon the foregoing FINDINGS AND CONCLUSIONS, and pursuant to
14 Sections 308 and 309(a) of the Clean Water Act, 33 U.S.C. §§ 1318 and 1319(a), it is hereby
15 ORDERED as follows:

16 Mixing Zones and Monitoring Stations

17 17. The "Main Stem Red Dog Creek mixing zone" begins at the confluence of North Fork
18 Red Dog Creek and Middle Fork Red Dog Creek and continues downstream for 1,930 feet.
19 "Station 10" is a water quality monitoring station located on the Main Stem Red Dog Creek a short
20 distance upstream of the confluence with the Ikalukrok Creek. "Station 151" is a water quality
21 monitoring station located at the downstream end of the mixing zone in the Main Stem of Red Dog
22 Creek. "Station 160" is a water quality monitoring station on Ikalukrok Creek several miles below
23 the confluence with the Main Stem Red Dog Creek, and approximately three miles below the
24 confluence of Dudd Creek with Ikalukrok Creek.

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1 **Schedule for Compliance**

2 18. Teck Cominco shall achieve compliance with its NPDES permit limits for TDS by
3 December 31, 2005.

4 **Interim TDS Limits**

5 19. After the commencement of discharge per the terms of the Modified Permit, Teck
6 Cominco shall limit the TDS discharged from Outfall 001 so as to maintain in-stream TDS
7 concentrations at Station 151 to a maximum of 1,500 mg/l until the start of Arctic grayling
8 spawning.

9 20. Teck Cominco must consult with ADNR regarding the start of Arctic grayling spawning.
10 This begins when water temperature reaches approximately 3°C as measured at Station 10 and
11 confirmed with field observations conducted by the ADNR. Beginning when either EPA or ADNR
12 notifies Teck Cominco in writing that the conditions for Arctic grayling spawning have been met in
13 Main Stem Red Dog Creek, Teck Cominco shall limit the TDS discharged from Outfall 001 so as to
14 maintain in-stream TDS concentrations at Station 151 to a maximum of 500 mg/L.

15 21. After either EPA or ADNR notifies Teck Cominco in writing that Arctic grayling have
16 finished spawning as provided in the Modified Permit (Section I.A.8.d), Teck Cominco shall limit
17 the TDS load discharged from Outfall 001 as described in the Modified Permit.

18 **Mass Balance Calculation and Effluent Flow Volume Limit**

19 22. In addition to applying the mass balance equations and complying with the resulting
20 effluent flow volume limit in Section I.A.8.j. of the Modified Permit, Teck Cominco shall also apply
21 the same mass balance equations using an assumed TDS effluent concentration equal to 110% of the
22 highest effluent TDS concentration observed to date, instead of 3,900 mg/l as specified in the
23 Modified Permit, and shall comply with any more stringent flow volume limits resulting from those
24 calculations.

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1 **Monitoring**

2 23. Teck Cominco shall comply with the monitoring requirements in the Part I.A.8 of the
3 Modified Permit.

4 **III. SANCTIONS AND ENFORCEMENT**

5 24. Violation of, or failure to comply with, the provisions of this Order may subject Teck
6 Cominco to: (1) civil penalties of up to \$32,500 per day of violation pursuant to Section 309(d) of
7 the Act, 33 U.S.C. § 1319(d), and 40 C.F.R. Part 19; (2) administrative penalties of up to \$11,000
8 per day for each violation, pursuant to Section 309(g) of the Act, 33 U.S.C. § 1319(g), and 40 C.F.R.
9 Part 19; or (3) termination of the Permit under 40 C.F.R. § 122.64.

10 25. Nothing in this Order shall be construed to relieve Teck Cominco of the requirements of
11 its NPDES permit or of applicable requirements of federal, state, or local law. EPA reserves the
12 right to take enforcement action as authorized by law for any violation of this Order, and for any
13 future or past violation of the Permit or any other applicable legal requirements.

14 **IV. GENERAL PROVISIONS**

15 26. Reevaluation of Order's Requirements. EPA and Teck Cominco each understand that
16 information will become available during the performance of this Order that may justify reevaluation
17 of some of its provisions. EPA and Teck Cominco intend to confer periodically to exchange any
18 new information, and to discuss any amendment to the Order's various terms that may be justified.

19 **27. Force Majeure**

20 (a) If any event occurs which causes delay and effectively precludes compliance with the
21 terms of this Order, Teck Cominco shall promptly notify EPA orally and shall, within seven days of
22 oral notification to EPA, notify EPA in writing of the anticipated length and cause of the delay, the
23 measures taken and to be taken by Teck Cominco to prevent or minimize the delay, and the timetable
24 by which Teck Cominco intends to implement these measures.

25 (b) If EPA determines, in its discretion, that the delay or anticipated delay of an obligation
26 under this Order has been caused, or will be caused, by circumstances beyond the reasonable control

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1 and despite the due diligence of Teck Cominco, then the time for performance of the delayed
2 obligation shall be excused or extended for a period equal to the delay resulting from such
3 circumstances.

4 (c) Force Majeure shall not include increased costs of performance of the terms and
5 conditions of the Order, changed economic circumstances, or reasonably foreseeable seasonal
6 fluctuations in the weather conditions of the region.

7 28. Reservation of Rights

8 (a) The consent to this Order is not an admission of liability by Teck Cominco on any issue
9 dealt with in this Order. In consenting to this Order, Teck Cominco does not admit, and reserves the
10 right to controvert in any subsequent proceedings, the validity of or responsibility for any of the
11 factual or legal determinations made herein. However, by its consent to this Order, Teck Cominco
12 agrees that it will not controvert or challenge, in any subsequent proceedings initiated by the EPA or
13 the United States, the validity of this Order or the authority of EPA to issue and enforce this Order.

14 (b) Teck Cominco expressly reserves the right to claim that no harm has been or will be
15 caused by the discharge described in this Order.

16 29. Parties Bound. This Order shall apply and be binding upon Teck Cominco, their agents,
17 successors, and assigns and upon all persons, contractors, and consultants acting on behalf of Teck
18 Cominco.

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W. A. Bennett

AGREED AND CONSENTED TO BY:

Teck Cominco Alaska Incorporated

By: R. G. Scott
General Manager

Date: _____

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